

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method, for virtually concatenating optical channels in WDM networks, comprising:

providing for a plurality of frames, each frame comprising a byte reserved for a concatenation flag;

writing ~~the~~a same value defined in advance into the n-frame (n=1,2,3,...) concatenation byte; and

transmitting the n frames through n respective channels.

2. (currently amended): A method, for receiving a number n of virtually concatenated signal frames in WDM networks, comprising:

receiving a first reference frame at an instant t_0 ;

reading ~~the~~a concatenation byte value of such reference frame;

receiving the remaining n-1 signal frames after a respective determined time t;

reading the concatenation byte value of the remaining n-1 signal frames; and

identifying and aligning all the signal frames with the same concatenation byte value compensating for the receiving time t .

3. (previously presented): A method according to claim 2, wherein the aligning of all the signal frames with the same concatenation byte value comprises:

receiving the remaining $n-1$ signal frames at corresponding instants t_1 ;

calculating, for each of the remaining $n-1$ frames, the time t elapsed from the instant at which the reference frame has been received;

providing, for every channel, an elastic store; and

holding steady the elastic storage of the reference channel and moving the others in dependence of the calculated times t .

4. (currently amended): A method according to claim 2, wherein the receiving of the remaining $n-1$ signal frames comprises:

reading ~~the~~ a frame alignment word of the reference frame at a first instant t_0 ;

reading the frame alignment word of the remaining $n-1$ frames at corresponding second instants t_1 ; and

calculating the time differences t between the first instant t_0 and the corresponding second instants t_1 .

5. (currently amended): A method according to claim 2, further comprising:

calculating ~~the~~ possible differences between the concatenation byte value of the reference frame and the concatenation byte value of the remaining $n-1$ frames,

multiplying said possible differences by the frame period T , and

adding the value obtained to the respective time differences t .

6. (currently amended): An apparatus for virtually concatenating optical channels in WDM networks, the apparatus comprising:

a first circuit for writing ~~the~~ a same predetermined value into ~~the~~ a concatenation byte of n -signal frames ($n=1,2,3,\dots$) : and

a transmitter of the n frames through n respective channels.

7. (currently amended): An apparatus for receiving a number n of signal frames virtually concatenated in WDM networks, the apparatus comprising:

a first receiver of a first reference frame at an instant t_0 ;

a first circuit for reading ~~the~~ a concatenation byte value of such reference frame;

a second receiver of the remaining $n-1$ signal frames after a respective determined time t ;

a second circuit for reading the concatenation byte value of the remaining $n-1$ frames; and

a circuit for identifying and aligning all the signal frames with the same concatenation byte value compensating for the receiving times t .

8. (original): A WDM network comprising circuits for the implementation of the method for virtually concatenating optical channels of claim 1.

9. (original): A WDM network comprising circuits for the implementation of the method for receiving a number n of virtually concatenated signal frames of claim 2.

10. (currently amended): A WDM network comprising:

an apparatus for virtually concatenating optical channels, ~~as in claim 6~~ the apparatus comprising:

a first circuit for writing a same predetermined value into a concatenation byte of n -signal frames ($n=1,2,3,\dots$) : and

a transmitter of the n frames through n respective channels.

11. (currently amended): A WDM network comprising:

an apparatus for receiving a number n of virtually concatenated signal frames, the apparatus comprising:

a first receiver of a first reference frame at an instant t_0 ;

a first circuit for reading a concatenation byte value of such reference frame;

a second receiver of the remaining $n-1$ signal frames after a respective determined

time t ;

a second circuit for reading the concatenation byte value of the remaining $n-1$ frames; and

a circuit for identifying and aligning all the signal frames with the same
concatenation byte value compensating for the receiving times t.

~~as in claim 7.~~

12. (new): The method for virtually concatenating optical channels in WDM networks,
according to claim 1, wherein the byte reserved for a concatenation flag is not fixed.

13. (new): The method for virtually concatenating optical channels in WDM networks,
according to claim 1, further comprising:

receiving the n frames,

wherein each frame is received on a same channel number assigned at the transmission
side.